

# CONVERTING, FINISHING, HANDLING & STORAGE OF PAPER

### **R.B.LAKSHMIPATHI SAKTHI**

Deputy Manager (Paper Machine Production) TNPL - Karur





### **SAKTHI** Production)



## CONVERTING

### **FUNCTIONS**

To transform large rolls into smaller reels with desired size for either end-customer or for further processing like sheeting & Rewinding through Slitting, Trimming & Rewinding







## CONVERTING

### • Unwinding

• Large rolls of paper are unwound and prepared for further processing.

### • Trimming

- The two edges of the roll are trimmed off (3 to 5 mm) and trimmings are conveyed back to pulper.
- <u>Slitting & Rewinding</u>
  - Rewinding and slitting involve cutting large paper rolls into smaller rolls or reels of desired width.







### FINISHING

### **FUNCTIONS**

To transform smaller width reels into packed products with specific shapes, sizes and functionalities for endcustomer applications through Sheeting, Counting, Packing & Labelling









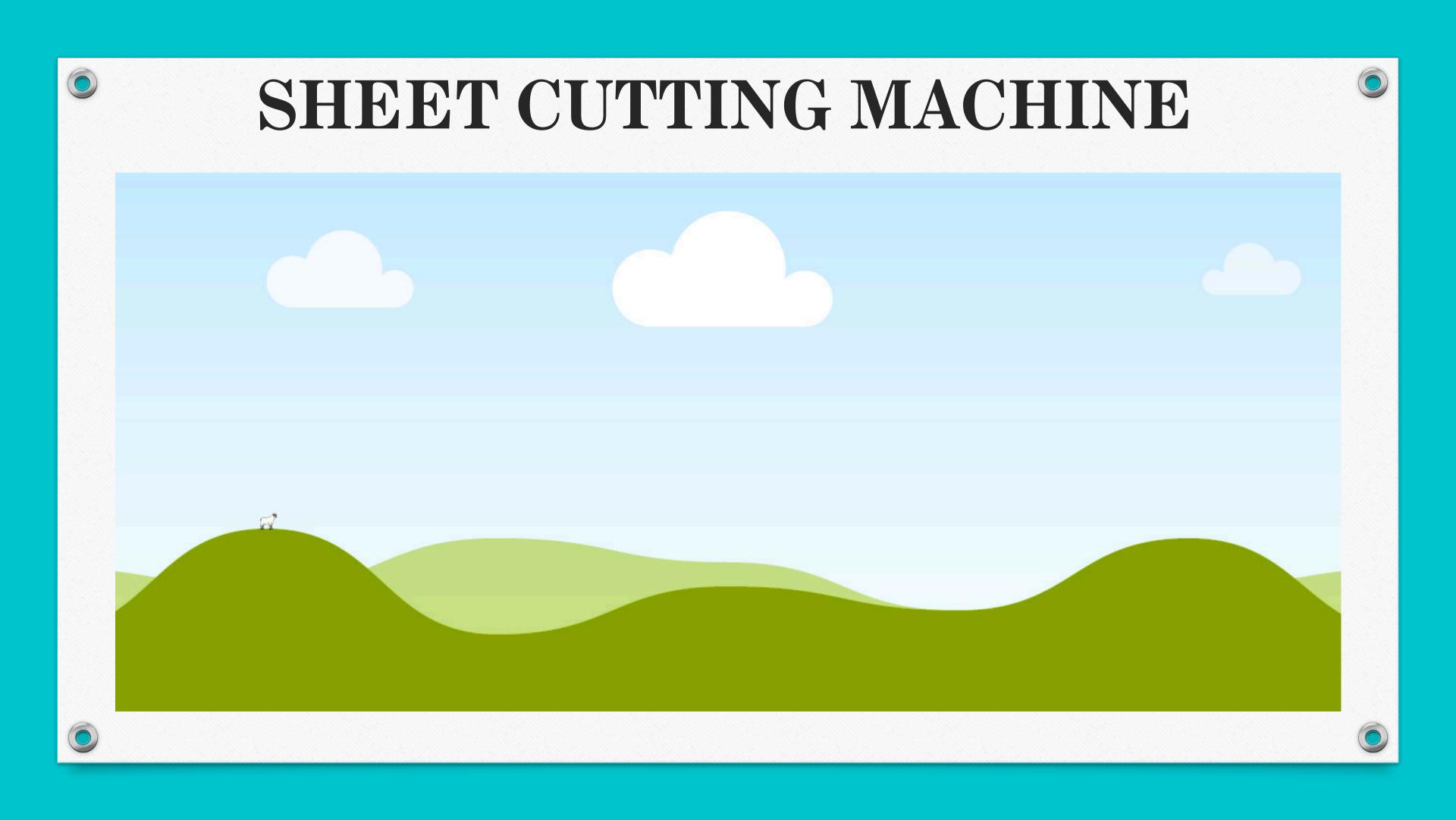
## **METHODS OF SHEET CUTTING**

### • <u>Rotary Sheet Cutting (Online Cutting):</u>

- Paper is unwound from a roll and cut into sheets using rotary knives.
- Performed inline with a production machine (e.g., a printing press).
- Ensures high-speed and continuous sheet production.
- Produces A4, A3, or custom-sized sheets for commercial use.
- Used for fine-art papers, newsprint, poster papers, and boards.
- Guillotine Cutting:
  - Uses a sharp guillotine blade to cut stacked sheets to required dimensions. • Suitable for small batch production and fine-trimmed sheets.







# **PROCESS OF REAM PACKING**

- <u>Counting</u> : A ream consists of 500 sheets which can be counted either by manual or automatic tape inserting system during sheeting itself
- Stacking : Sheets are aligned into reams which prevents curling or warping before packaging.
- <u>Ream Packing</u>: Wrapping the reams with kraft wrapper which can protect the products from external factors like dust, water and damage
- <u>Labelling</u> : Labels are applied for product identification, traceability & information's about type, Basis Weight, manufacturer and batch.

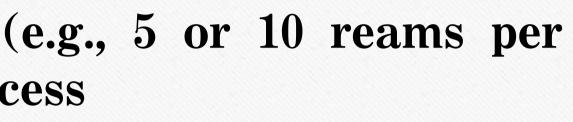




# **PROCESS OF BUNDLE PACKING**

- **Bundling** 
  - A Bundle consists of Multiple reams (e.g., 5 or 10 reams per bundle) grouped together for further process
- Shrink Packing
  - Sealing and shrink-wrapping ensures protection from dust, moisture, and handling damage.
- <u>Stacking & Palletizing</u>
  - Bundles are placed & aligned evenly onto wooden or plastic pallets wrapped with stretch film for stability. • Pallets are labelled with shipping details, barcodes, and tracking information etc.







# **PACKING REELS**

- <u>Shrink Packing</u>
  - Sealing and shrink-wrapping ensures protection from dust, moisture, and handling damage.
- <u>Reel Packing</u>
  - Wrapping the reels with kraft wrapper which can protect the products from external factors like dust, water and damage
- Labelling
  - Labels are applied for product identification, traceability & information's about type, Basis Weight, manufacturer and batch.

















Paper

500 Sheets

Paper 500 Sheets

Paper

500 Sheets

Paper

500 Sheets

Paner



# HANDLING & STORAGE

### **FUNCTIONS**

To ensure free from any damage, to maintain quality & integrity of paper not only inside the mill but also throughout its journey from mill to end user or customer.







# **BEST PRACTICES FOR HANDLING**

- Minimize Handling: Reduce the number of times paper is moved to lower the risk of damage. Avoid dropping, bending, or stacking paper unevenly to prevent creases and edge damage.
- <u>Use Proper Packaging:</u> Paper is shipped in packaging designed to preserve its quality; keep it in this packaging until needed to protect from environmental changes and physical harm.
- <u>Clean Handling Areas</u>: Ensure that storage and handling areas are free of dust, debris, and contaminants that could transfer to the paper surface.
- Flat Storage: Store paper on a flat surface to prevent warping and curling. Avoid textured or uneven surfaces that could imprint patterns onto the sheets.



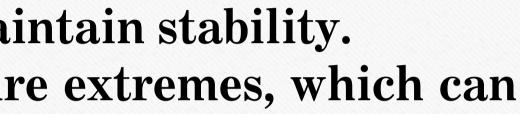




# IDEAL ENVIRONMENTAL CONDITIONS FOR STORAGE

- <u>Temperature:</u>
  - Store paper at a temperature 22-28°C to maintain stability.
  - Avoid exposure to sunlight and temperature extremes, which can cause uneven expansion or contraction.
- Ventilation and Airflow:
  - Ensure proper air circulation to prevent mold and mildew.
  - Avoid storing paper in damp or poorly ventilated rooms.





old and mildew. cilated rooms.



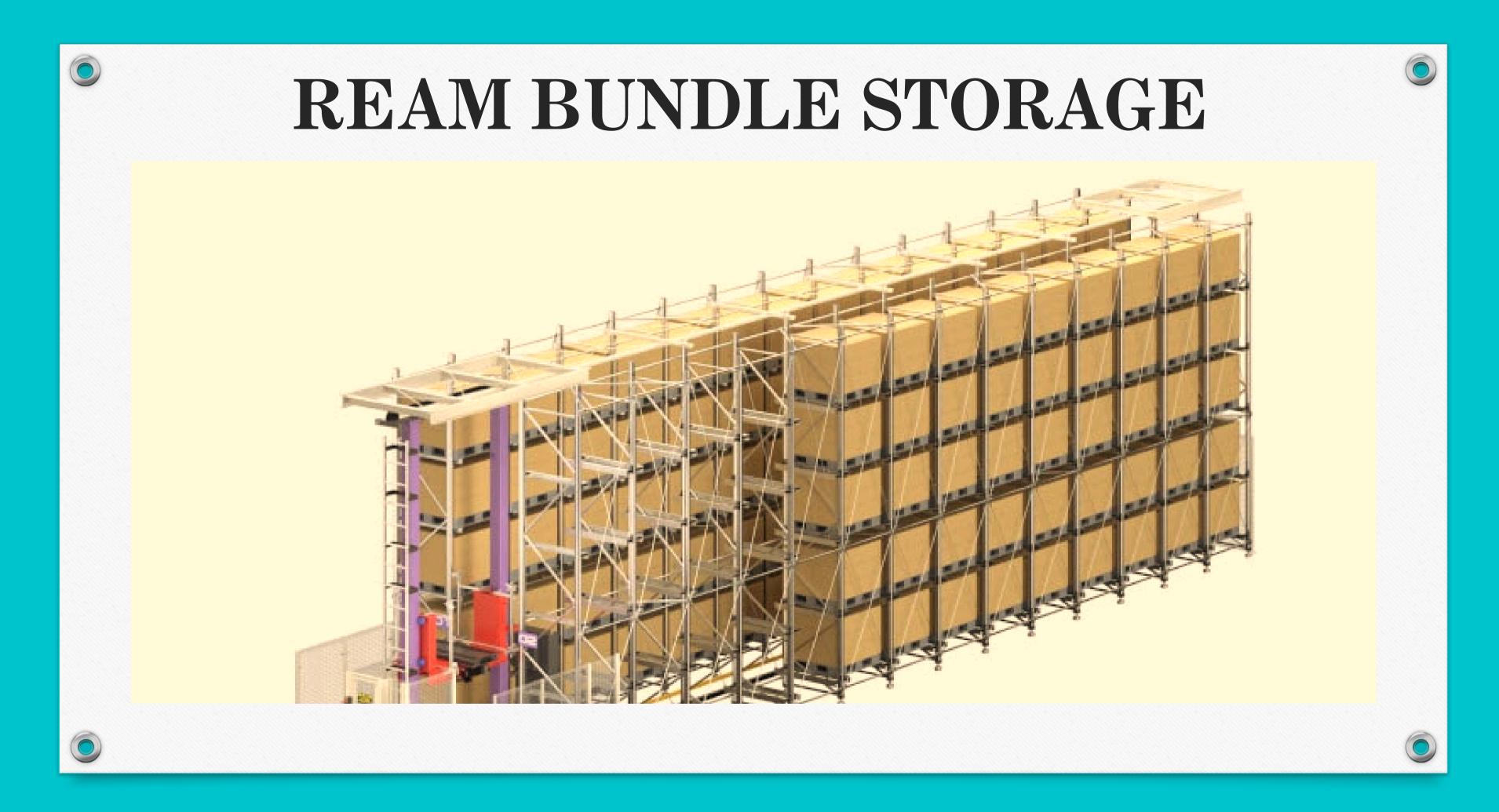
# **SAFETY CONSIDERATIONS** FOR PAPER STORAGE

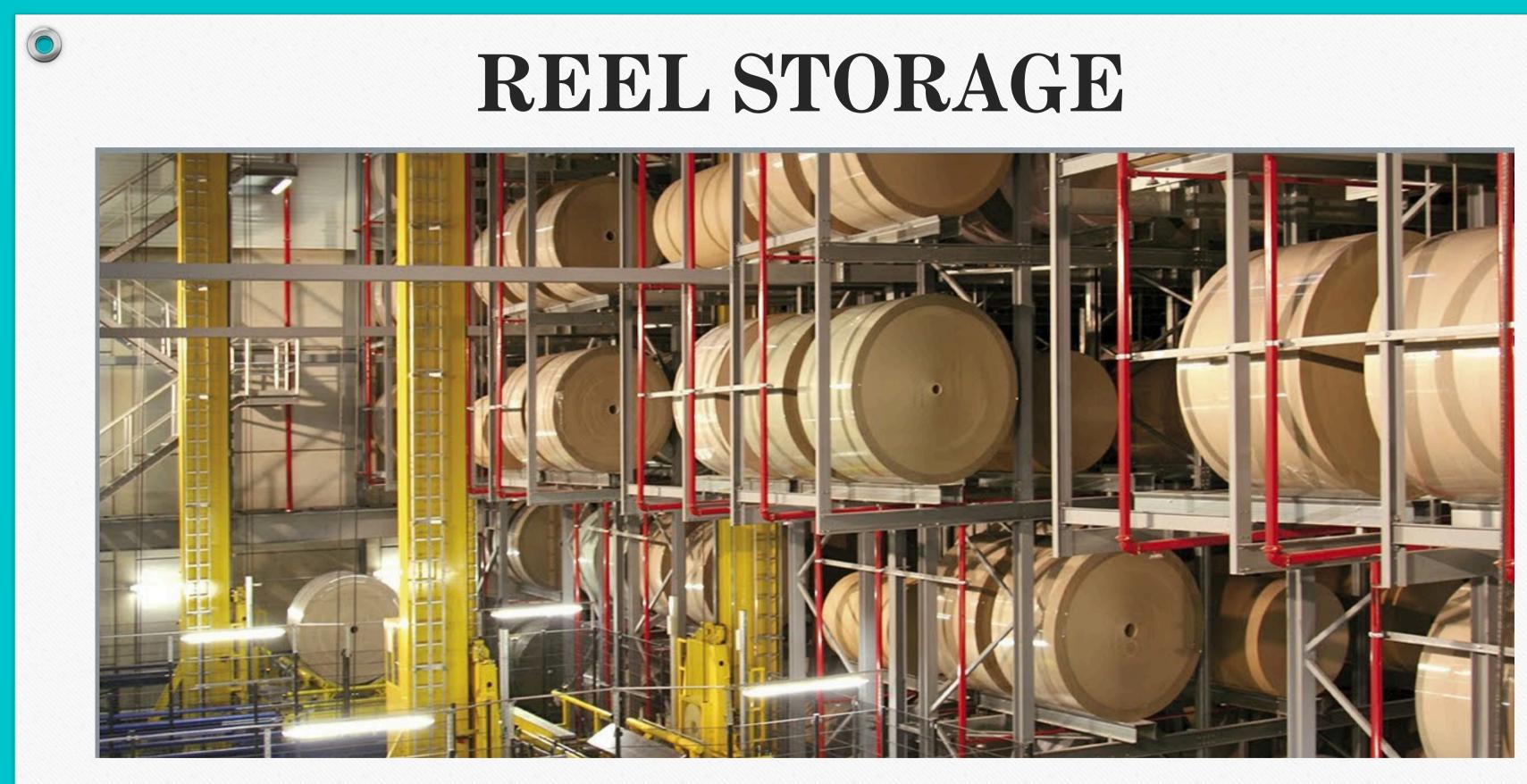
### • Fire Prevention Measures:

- Install fire suppression systems like sprinklers / fire extinguishers
- Store away from electrical panels, heat sources and sparks.
- Ensure fire exits and pathways are clear in storage areas.
- **Storage Layout for Safety:** 
  - Keep wide aisles for easy movement and emergency access.
  - Avoid blocking ventilation systems with stacks.
  - Label and mark storage areas with clear signs for quick identification.







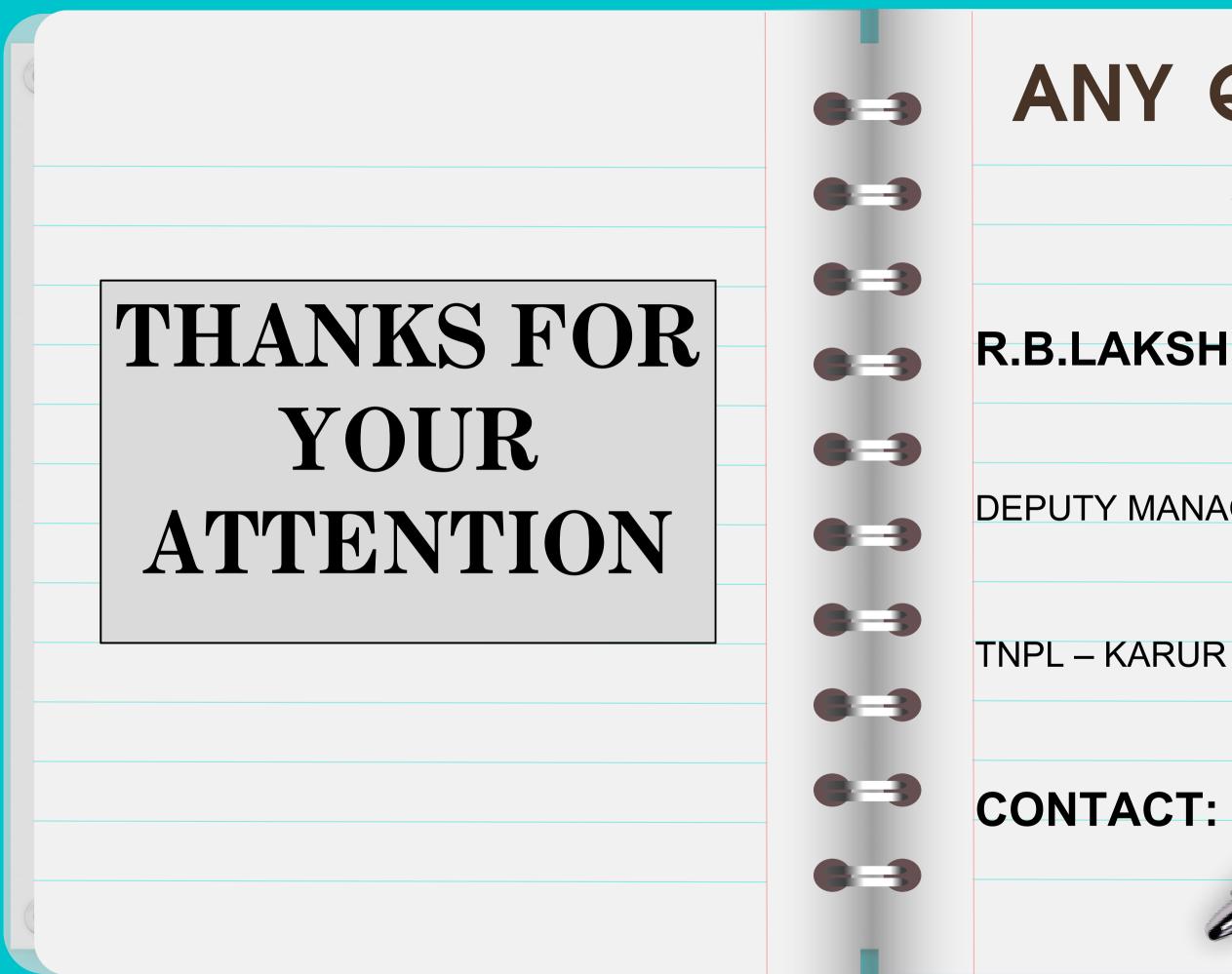




## DESPATCHING







# **ANY QUESTIONS** 222

### **R.B.LAKSHMIPATHI SAKTHI**

### **DEPUTY MANAGER (PRODUCTION)**

### CONTACT: 999 4 688 652